

10/773,928

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NEWS	8	DEC 15	MEDLINE update schedule for December 2004
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NEWS	14	DEC 30	EPFULL: New patent full text database to be available on STN
NEWS	15	DEC 30	CAPLUS - PATENT COVERAGE EXPANDED
NEWS	16	JAN 03	No connect-hour charges in EPFULL during January and February 2005
NEWS	17	JAN 26	CA/CAPLUS - Expanded patent coverage to include the Russian Agency for Patents and Trademarks (ROSPATENT)
NEWS	18	FEB 10	STN Patent Forums to be held in March 2005
NEWS	19	FEB 16	STN User Update to be held in conjunction with the 229th ACS National Meeting on March 13, 2005
NEWS EXPRESS			JANUARY 10 CURRENT WINDOWS VERSION IS V7.01a, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 10 JANUARY 2005
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NEWS INTER			General Internet Information
NEWS LOGIN			Welcome Banner and News Items
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=> FIL STNGUIDE

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'STNGUIDE' ENTERED AT 20:00:59 ON 23 FEB 2005

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FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Feb 18, 2005 (20050218/UP).

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.06

0.27

FILE 'REGISTRY' ENTERED AT 20:01:12 ON 23 FEB 2005

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STRUCTURE FILE UPDATES: 22 FEB 2005 HIGHEST RN 835870-69-4

DICTIONARY FILE UPDATES: 22 FEB 2005 HIGHEST RN 835870-69-4

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

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Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.43

0.70

FILE 'CAPLUS' ENTERED AT 20:01:19 ON 23 FEB 2005

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FILE COVERS 1907 - 23 Feb 2005 VOL 142 ISS 9  
FILE LAST UPDATED: 22 Feb 2005 (20050222/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s 1,10-phenanthroline
      8183148 1
      3559079 10
      26714 PHENANTHROLINE
      872 PHENANTHROLINES
      26778 PHENANTHROLINE
            (PHENANTHROLINE OR PHENANTHROLINES)
L1      18649 1,10-PHENANTHROLINE
            (1(W)10(W)PHENANTHROLINE)
```

```
=> s l1 and lanthanide
      37283 LANTHANIDE
      10707 LANTHANIDES
      41341 LANTHANIDE
            (LANTHANIDE OR LANTHANIDES)
L2      378 L1 AND LANTHANIDE
```

```
=> s l2 and complex
      1182179 COMPLEX
      677852 COMPLEXES
      1457005 COMPLEX
            (COMPLEX OR COMPLEXES)
L3      344 L2 AND COMPLEX
```

```
=> s l3 and (cesium or Ce)
      91864 CESIUM
      6 CESIUMS
      91864 CESIUM
            (CESIUM OR CESIUMS)
      81214 CE
      974 CES
      81846 CE
            (CE OR CES)
L4      45 L3 AND (CESIUM OR CE)
```

```
=> s l3 and (ceciun or Ce)
      1 CECIUM
      81214 CE
      974 CES
      81846 CE
            (CE OR CES)
L5      42 L3 AND (CECIUM OR CE)
```

```
=> s l3 and (cerium or Ce)
      94764 CERIUM
      3 CERIUMS
      94764 CERIUM
            (CERIUM OR CERIUMS)
      81214 CE
      974 CES
```

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81846 CE

(CE OR CES)

L6 57 L3 AND (CERIUM OR CE)

=> s l3 and (cerium)

94764 CERIUM

3 CERIUMS

94764 CERIUM

(CERIUM OR CERIUMS)

L7 30 L3 AND (CERIUM)

=> d l7 ibib hitstr abs 1-30

L7 ANSWER 1 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:996427 CAPLUS

DOCUMENT NUMBER: 141:17155

TITLE: Syntheses, anti-inflammatory action and XPS of  
Ln(III)-1,10-

**phenanthroline-cinnamic acid complexes**

AUTHOR(S): Xie, Xiaomei; Zeng, Zhengzhi

CORPORATE SOURCE: School of Resources and Environmental Science,  
Zhejiang University, Hangzhou, 310000, Peop. Rep.  
China

SOURCE: Lanzhou Daxue Xuebao, Ziran Kexueban (2003), 39(2),  
64-67

CODEN: LCTHAF; ISSN: 0455-2059

PUBLISHER: Lanzhou Daxue

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB The ternary **complexes** of Ln(III) with 1,10-

**phenanthroline** and cinnamic acid (CA) were synthesized, and their  
composition, solubility, molar conductance, UV, IR, <sup>1</sup>H-NMR, and XPS were  
studied.

The composition formulas of Ln(phen)(CA)<sub>3</sub>(H<sub>2</sub>O) [Ln = Ce(III), Nd(III), Eu(III)]  
for the **complexes** were determined. The ligands (phen and CA-) were  
coordinated to the Ln(III) ion in a chelating (bidentate) form, and the  
coordination number of metallic ion was eight. The stability on gremor and  
anti-inflammatory action of the **complexes** were determined

L7 ANSWER 2 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:532104 CAPLUS

DOCUMENT NUMBER: 139:94404

TITLE: Molecularly imprinted polymer solution anion sensor

INVENTOR(S): Murray, George M.

PATENT ASSIGNEE(S): The John Hopkins University, USA

SOURCE: U.S. Pat. Appl. Publ., 21 pp., Cont.-in-part of U.S.  
Ser. No. 300,867, abandoned.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003129092	A1	20030710	US 2002-272834	20021016
US 6749811	B2	20040615		
US 2004265178	A1	20041230	US 2004-867927	20040615
US 2005019218	A1	20050127	US 2004-919205	20040816
PRIORITY APPLN. INFO.:			US 1998-83365P	P 19980428
			US 1999-300867	B2 19990428
			US 2001-329652P	P 20011016

US 2002-272834 A1 20021016  
US 2003-359322 B1 20030206

AB Devices for measuring and detecting a wide variety of analytes, including polyat. anions, such as organophosphorus pesticides and nerve agents are provided. The devices function by selectively binding an analyte to a luminescent functionality-imprinted copolymer. The copolymers possess a securely bound luminescent **lanthanide** ion, such as Eu<sup>3+</sup>, in a coordination **complex** that was imprinted to bind the chemical functionality. Also provided are methods for producing the **lanthanide**-containing molecularly imprinted polymers of the invention.

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:320149 CAPLUS  
DOCUMENT NUMBER: 138:330939  
TITLE: Molecularly imprinted polymer solution anion sensor  
INVENTOR(S): Murray, George M.  
PATENT ASSIGNEE(S): The Johns Hopkins University, USA  
SOURCE: PCT Int. Appl., 43 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 5  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003034043	A2	20030424	WO 2002-US33167	20021016
WO 2003034043	A3	20030731		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1436599	A2	20040714	EP 2002-801765	20021016
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK			

PRIORITY APPLN. INFO.: US 2001-329652P P 20011016  
WO 2002-US33167 W 20021016

AB Devices for measuring and detecting a wide variety of analytes, including polyat. anions, such as organophosphorus pesticides and nerve agents are provided. The devices function by selectively binding an analyte to a luminescent functionality-imprinted copolymer. The copolymers possess a securely bound luminescent **lanthanide** ion, such as Eu<sup>3+</sup>, in a coordination **complex** that was imprinted to bind the chemical functionality. Also provided are methods for producing the **lanthanide**-containing molecularly imprinted polymers of the invention.

L7 ANSWER 4 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:938678 CAPLUS  
DOCUMENT NUMBER: 138:143128  
TITLE: Formation Thermodynamics of Binary and Ternary **Lanthanide(III) Complexes** with **1,10-Phenanthroline** and Chloride in N,N-Dimethylformamide  
AUTHOR(S): Komiya, Morito; Nishikido, Yuuki; Umebayashi,

Yasuhiro; Ishiguro, Shin-ichi  
 CORPORATE SOURCE: Faculty of Science, Department of Chemistry, Kyushu University, Higashi-ku, Fukuoka, 812-8581, Japan  
 SOURCE: Journal of Solution Chemistry (2002), 31(11), 931-946  
 CODEN: JSLCAG; ISSN: 0095-9782  
 PUBLISHER: Kluwer Academic/Plenum Publishers  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Formation thermodyn. of binary and ternary **lanthanide**(III) (Ln = La, Ce, Nd, Eu, Gd, Dy, Tm, Lu) **complexes** with 1, **10-phenanthroline** (phen) and the chloride ion have been studied by titration calorimetry and spectrophotometry in N,N-dimethyl-formamide (DMF) containing 0.2 mol-dm<sup>-3</sup> (C<sub>2</sub>H<sub>5</sub>)<sub>4</sub>NClO<sub>4</sub> as a constant ionic medium at 25°C. In the binary system with 1, **10-phenanthroline**, the Ln(phen)<sub>3</sub><sup>+</sup> **complex** is formed for all the **lanthanide**(III) ions examined. The reaction enthalpy and entropy values for the formation of Ln(phen)<sub>3</sub><sup>+</sup> decrease in the order La > Ce > Nd, then increase in the order Nd < Eu < Gd < Dy, and again decrease in the order Dy > Tm > Lu. The variation is explained in terms of the coordination structure of Ln(phen)<sub>3</sub><sup>+</sup> that changes from eight to seven coordination with decreasing ionic radius of the metal ion. In the ternary Ln<sup>3+</sup>-Cl<sup>-</sup>-phen system, the formation of LnCl(phen)<sub>2</sub><sup>+</sup>, LnCl<sub>2</sub>(phen)<sup>+</sup>, and LnCl<sub>3</sub>(phen) was established for **cerium**(III), neodymium(III), and thulium(III), and their formation consts., enthalpies, and entropies were obtained. The enthalpy and entropy values are also discussed from the structural point of view.  
 REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2002:931861 CAPLUS  
 DOCUMENT NUMBER: 138:247608  
 TITLE: Magnetic exchange based on  $\pi$ - $\pi$  stacking interactions: synthesis, crystal structure, thermal decomposition and magnetic properties of [Ce(phen)<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub>(NO<sub>3</sub>)<sub>2</sub>](NO<sub>3</sub>)(phen)<sub>2</sub>(H<sub>2</sub>O)  
 AUTHOR(S): Zheng, Yue-Qing; Zhou, Lin-Xia; Lin, Jian-Li; Wei, Dan-Yi  
 CORPORATE SOURCE: Municipal Key Laboratory of Inorganic Materials Chemistry, Institute for Solid State Chemistry, Ningbo University, Ningbo, 315211, Peop. Rep. China  
 SOURCE: Zeitschrift fuer Naturforschung, B: Chemical Sciences (2002), 57(11), 1244-1250  
 CODEN: ZNBSEN; ISSN: 0932-0776  
 PUBLISHER: Verlag der Zeitschrift fuer Naturforschung  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 138:247608

AB Reaction of Ce(NO<sub>3</sub>)<sub>3</sub>·6H<sub>2</sub>O and 1,10-**phenanthroline** in CH<sub>3</sub>OH/H<sub>2</sub>O afforded [Ce(phen)<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub>(NO<sub>3</sub>)<sub>2</sub>](NO<sub>3</sub>)(phen)<sub>2</sub>(H<sub>2</sub>O), which consists of [Ce(phen)<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub>(NO<sub>3</sub>)<sub>2</sub>]<sup>+</sup> **complex** cations, NO<sub>3</sub> anions, phen and crystal water mols. Within the [Ce(phen)<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub>(NO<sub>3</sub>)<sub>2</sub>]<sup>+</sup> **complex** cations, the Ce atoms are 10-fold coordinated by four pyridyl N atoms, four nitrate O and two water O atoms with d(Ce-O) = 2.505-2.629 and d(Ce-N) = 2.666-2.734 Å. The supramol. assemblies of the **complex** cations via  $\pi$ - $\pi$  stacking interactions form 1-dimensional columnar chains, which run parallel to give pos. charged 2-dimensional layers. The phen mols. are also assembled via  $\pi$ - $\pi$  stacking interactions into 1-dimensional columnar chains whose arrangement results in neutral 2-dimensional layers. The NO<sub>3</sub><sup>-</sup> anions and the crystal water mols. are situated between the pos. charged and neutral 2-dimensional layers. The title compound decomp. in

four steps upon heating. Magnetic measurements show that it is a ferrimagnet at low temperature and follows the Curie-Weiss law  $\chi_m(T - \Theta) = 0.796 \text{ (cm}^3 \text{ mol}^{-1} \text{ K)}$  with the Weiss constant  $\Theta = -57(2) \text{ K}$  over the temperature range 50-300 K. Comparison of the magnetic behavior of the

title **cerium complex** with that of the Pr and Th phen nitrate **complexes**  $\text{Ln(phen)}_2(\text{NO}_3)_3$  (Ln = Pr, Tb) suggests that magnetic exchange is probably transmitted via the  $\pi$ - $\pi$  stacking interactions.

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:923902 CAPLUS

DOCUMENT NUMBER: 136:61292

TITLE: Polymer matrix electroluminescent materials and devices

INVENTOR(S): Marrocco, Matthew L., III; Motamedi, Farshad J.

PATENT ASSIGNEE(S): Maxdem Incorporated, USA

SOURCE: PCT Int. Appl., 60 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001096454	A1	20011220	WO 2001-US18867	20010612
W:				
AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW:				
GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2002028347	A1	20020307	US 2001-879752	20010612
EP 1297060	A1	20030402	EP 2001-948324	20010612
R:				
AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004503640	T2	20040205	JP 2002-510583	20010612
US 2004131886	A1	20040708	US 2003-737220	20031215
PRIORITY APPLN. INFO.:			US 2000-211108P	P 20000612
			US 2001-879752	A1 20010612
			WO 2001-US18867	W 20010612

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compns. are described which comprise a polymer comprising repeat units selected from described by the general formulas I-XII (R = independently selected H, D, F, alkoxy, aryloxy, alkyl, aryl, alkyl ketone, aryl ketone, alkylester, aryloster, amide, carboxylic acid, fluoroalkyl, fluoroaryl, and polyalkylene oxy groups; R' = independently selected H, D, F, Cl, Br, I alkoxy, aryloxy, alkyl, aryl, alkyl ketone, aryl ketone, alkylester, aryloster, amide, carboxylic acid, fluoroalkyl, fluoroaryl, and polyalkylene oxy groups; any two of the R or R' groups may be bridging; A

and B = independently selected -O-, -S-, NR1, CR1R2, CR1R2CR3R4-, N:CR1, CR1:CR2-, -N:N-, and -(CO)-; R1-4 are H, D, F, alkyl, aryl, alkyleneoxy, polyalkyleneoxy, alkoxy, aryloxy, fluoroalkyl, and fluoroaryl; m = 0-2; n = 0-3; o = 0-4; p = 0-5; q = 0-6; r = 0-7; and E is selected from the group consisting of O, NH, and S) and  $\geq 1$  luminescent metal ions or luminescent metal ion **complexes**. Electroluminescent compns. are also described which comprise an aromatic hydrocarbon matrix; and a **lanthanide** metal **complex** having an aromatic ligand.

Electroluminescent devices using the compns. are also described.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:667194 CAPLUS

DOCUMENT NUMBER: 135:204443

TITLE: Studies of XPS and ORD on ternary **lanthanide complexes** of D-camphor- $\beta$ -sulfonic acid and **1,10-phenanthroline**

AUTHOR(S): Zeng, Zhengzhi

CORPORATE SOURCE: College of Chemistry and Chemical Engineering, Lanzhou University, Lanzhou, 730000, Peop. Rep. China

SOURCE: Chemical Papers (2001), 55(2), 110-112

CODEN: CHPAEG; ISSN: 0366-6352

PUBLISHER: Slovak Academic Press Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Nine new chiral ternary **complexes** Ln(Phen)2L2Cl·H2O (Ln = La, Ce, Pr, Nd, Sm, Eu, Tb, Dy and Ho; HL = D-camphor- $\beta$ -sulfonic acid) were synthesized and characterized by the elemental anal., molar conductance, UV, IR, XPS, ORD, and fluorescence spectra. A chiral seven-coordinate structure is proposed for these **complexes**.

L7 ANSWER 8 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:581742 CAPLUS

DOCUMENT NUMBER: 133:366571

TITLE: Synergism by sublimation of volatile **lanthanide**  $\beta$ -diketonates

AUTHOR(S): Kuzmina, N. P.; Martynenko, L. I.; Chugarov, N. V.; Zaitseva, I. G.; Grigoriev, A. N.; Yakushevich, A. N.

CORPORATE SOURCE: Department of Chemistry, Moscow State University, Moscow, 119899, Russia

SOURCE: Journal of Alloys and Compounds (2000), 308(1-2), 158-162

CODEN: JALCEU; ISSN: 0925-8388

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synergistic effect by sublimation manifests itself in an increase in the volatility of nonvolatile or slightly volatile compds. in the presence of highly volatile agents. In this study, manifestations of the synergistic effect are demonstrated by the evaporation of mixed ligand **complexes**, derivs. of **lanthanide** acetylacetonates and neutral organic ligands, and by evaporation of the following mixts.: yttrium and zirconium acetylacetonates, lanthanum and nickel dipivaloylmethanates and acetylacetonates, and lanthanum and aluminum acetylacetonates.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:384344 CAPLUS

DOCUMENT NUMBER: 133:36318



10/773,928

TITLE: Method for forming films or layers  
INVENTOR(S): Kathirgamanathan, Poopathy  
PATENT ASSIGNEE(S): South Bank University Enterprises Ltd., UK  
SOURCE: PCT Int. Appl., 24 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000032719	A1	20000608	WO 1999-GB4030	19991201
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2352882	AA	20000608	CA 1999-2352882	19991201
EP 1144544	A1	20011017	EP 1999-973059	19991201
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 9916924	A	20011106	BR 1999-16924	19991201
JP 2002531913	T2	20020924	JP 2000-585350	19991201
AU 757859	B2	20030306	AU 2000-14009	19991201
US 6605317	B1	20030812	US 2001-857287	20010601
PRIORITY APPLN. INFO.:			GB 1998-26405	A 19981202
			WO 1999-GB4030	W 19991201

OTHER SOURCE(S): MARPAT 133:36318

AB Methods for forming a film or layer of an organometallic **complex** on a substrate are described which entail vaporizing a metal **complex** and an organic compound and condensing the vapor on to a substrate to form a film or layer of the organometallic **complex** on the substrate. The compds. may be mixed prior to vaporization or may be vaporized sequentially. Use of the methods for the fabrication of electroluminescent devices is described.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 10 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:200568 CAPLUS

DOCUMENT NUMBER: 130:319997

TITLE: Synthesis and crystal structure of new quaternary mixed anion **complexes** of **lanthanides** containing 1,10-**phenanthroline**

AUTHOR(S): Zhu, Longguan; Xie, Xuepeng; Yu, Qingsen

CORPORATE SOURCE: Department of Chemistry, Zhejiang University, Hangzhou, 310027, Peop. Rep. China

SOURCE: Zhongguo Xitu Xuebao (1998), 16(4), 293-297

CODEN: ZXXUE5; ISSN: 1000-4343

PUBLISHER: Yejin Gongye Chubanshe

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB Quaternary mixed anion **complexes** Ln(OAc)<sub>2</sub>(NO<sub>3</sub>)(phen) (Ln = La, Ce Sm, Eu, Gd, Er) were synthesized from H<sub>2</sub>O/EtOH of slightly acid solution and characterized by elemental anal., IR and UV spectra, thermal anal. and single crystal x-ray diffraction anal. The crystal of

[Ce(CH<sub>3</sub>COO)<sub>2</sub>(NO<sub>3</sub>)(phen)]<sub>2</sub> belongs to monoclinic system, lattice type C-centered, space group C2/m, a 1.5444(6), b 1.2273(5), c 1.2776(5) nm,  $\beta$  131.89(2)°, Z = 2, R = 0.024, R<sub>w</sub> = 0.032.

L7 ANSWER 11 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:500172 CAPLUS  
DOCUMENT NUMBER: 129:224887  
TITLE: Crystal structure of quaternary mixed anion  
**complex of lanthanide**  
[Ce(CH<sub>3</sub>COO)<sub>2</sub>(NO)<sub>3</sub>(phen)]<sub>2</sub>  
AUTHOR(S): Zhu, Long-Guan; Yu, Qing-Sen; Xie, Xue-Peng; Pan, Xue-Ying  
CORPORATE SOURCE: Dep. Chem., Zhejiang Univ., Hangzhou, 310027, Peop. Rep. China  
SOURCE: Jiegou Huaxue (1998), 17(4), 281-283  
CODEN: JHUADF; ISSN: 0254-5861  
PUBLISHER: "Jiegou Huaxue" Bianji Weiyuanhui  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The **complex** [Ce(CH<sub>3</sub>COO)<sub>2</sub>(NO<sub>3</sub>)(phen)]<sub>2</sub> was prepared and characterized by x-ray crystallog. The crystal is monoclinic, lattice type C-centered, space group C2/m, with a 15.444(6), b 12.273(5), c 12.776(5) Å,  $\beta$  131.89(2)°, Z = 2,  $d_c$  = 1.844 g/cm<sup>3</sup>,  $\mu$ (MoK $\alpha$ ) = 25.69 cm<sup>-1</sup>, F(000) = 980.00, R = 0.024, R<sub>w</sub> = 0.032. The mol. of the **complex** is a dimer with C<sub>2h</sub> symmetry and the mol. center lies on the special position 2/m. Each Ce(III) ion is nine-coordinated to one bidentate nitrate group, five oxygen atoms of acetates and two nitrogen atoms of **1,10-phenanthroline** (phen).

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 12 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:275815 CAPLUS  
DOCUMENT NUMBER: 127:28253  
TITLE: Extractive separation of trivalent **lanthanide** metals with a combination of Di(2-ethylhexyl)phosphoric acid and **1,10-phenanthroline**  
AUTHOR(S): Zahir, Md. Hasan; Masuda, Yoshitaka  
CORPORATE SOURCE: Division of Science of Materials, Graduate School of Science and Technology, Kobe University, Kobe, 657, Japan  
SOURCE: Talanta (1997), 44(3), 365-371  
CODEN: TLNTA2; ISSN: 0039-9140  
PUBLISHER: Elsevier  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The equilibrium extraction behavior of trivalent **lanthanide** ions (Ln<sup>3+</sup>) using a chloroform-Kerosine solution containing Di(2-ethylhexyl)phosphoric acid, combined with an adductant, **1,10-phenanthroline** monohydrate (phen), were studied. The enhancement of the extraction by addition of such a neutral adductant is explained in terms of the extraction of the quaternary **complex**, M(HX<sub>2</sub>)<sub>3</sub>(phen)<sub>2</sub>, in addition to the neutral **complex**, M(HX<sub>2</sub>)<sub>3</sub>, into the organic phase. The stoichiometry, extraction consts. and separation factors of these systems were determined. The extraction consts. of these systems partially follow the order of the atomic nos. The synergistic extraction consts. increased in the other Gd > Er > Ho >

Eu > Ce > La > Pr and the highest separation factor was observed for Er-Ho (2.09).

PH1/2 values were also obtained. In this synergistic extraction system, both the extraction equilibrium consts. and the separation factors are greater than those of com. extractants.

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 13 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:122272 CAPLUS

DOCUMENT NUMBER: 126:206748

TITLE: XPS and chiroptical studies on ternary

**lanthanide complexes** of  
D-camphor- $\beta$ -sulfonic acid and **1,**  
**10-phenanthroline**

AUTHOR(S): Dong, Hengshan; Ma, Hongzhu; Wang, Bo; Yang, Shiyao

CORPORATE SOURCE: State Key Lab. Oxo Synthesis Selective Oxidn., Chinese Acad. Sci., Lanzhou, 730000, Peop. Rep. China

SOURCE: Polyhedron (1996), Volume Date 1997, 16(3), 427-431

CODEN: PLYHDE; ISSN: 0277-5387

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Nine new chiral **complexes** Ln(Phen)2L2Cl (Ln = LaIII, PrIII,

NdIII, CeIII, SmIII, EuIII, TbIII and HoIII, Phen = **1,10**

**-phenanthroline**, L = D-camphor- $\beta$ -sulfonate ion) were

synthesized and characterized from elemental anal., molar conductance, electronic, IR, XPS; CD and fluorescence spectra. A seven coordinated model was proposed for these **complexes**.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 14 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:272805 CAPLUS

DOCUMENT NUMBER: 124:353884

TITLE: Calorimetric titration of complexation of seven

**lanthanide** mandelates with **1,**  
**10-phenanthroline**

AUTHOR(S): Ren, Yanping; Zhang, Li; Yu, Kaiyu; Liu, Yu; Wang, Liufang

CORPORATE SOURCE: Department of Applied Chemistry, Taiyuan University of Technology, Taiyuan, 030024, Peop. Rep. China

SOURCE: Polyhedron (1996), 15(13), 2231-5

CODEN: PLYHDE; ISSN: 0277-5387

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Thermodyn. properties of complexation of seven **lanthanide**(III)

(La, Ce, Pr, Nd, Sm, Eu and Gd) mandelates with **1,10-**

**phenanthroline** (phen) in methanol-water (volume/volume 3:2) at

25°C were determined by calorimetric titration The stability consts. of the **complexes** and enthalpies ( $\Delta H$ ) of coordination were

calculated directly. Furthermore, the authors have evaluated the entropies ( $\Delta S$ ) and free energies ( $\Delta G$ ). The variation rule of thermodyn.

properties with the atomic nos. or the ionic radii of the **lanthanide**

ions are discussed. It was also found that the enthalpy-entropy

compensation effect does not exist in the present case.

L7 ANSWER 15 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:779246 CAPLUS

DOCUMENT NUMBER: 123:357720

TITLE: Extraction separation of tetravalent **lanthanide** metals with combination of bis(2-ethylhexyl) phosphate and **1,10-phenanthroline**

AUTHOR(S): Masuda, Y.; Zahir, Md. Hasan

CORPORATE SOURCE: Grad. Sch. Sci. Technology, Kobe Univ., Kobe, 657, Japan

SOURCE: Kidorui (1995), 26, 378-9  
CODEN: KIDOEP; ISSN: 0910-2205

PUBLISHER: Nippon Kidorui Gakkai

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB The equilibrium extraction behavior for a series of tetravalent **lanthanide** ions (Ln<sup>3+</sup>) using a chloroform/kerosine solution containing bis(2-ethylhexyl) phosphate combined with **1,10-phenanthroline** (phen) is studied. The enhancement of the extraction by addition of such neutral adductant has been explained in terms of the extraction of the quaternary **complex**, M(HX<sub>2</sub>)<sub>3</sub>(phen)<sub>2</sub>, in addition to the neutral **complex**, M(HX<sub>2</sub>)<sub>3</sub> in the organic phase. The stoichiometry, extraction consts. and separation factors of these systems were determined. The extraction consts. of these systems partially comply with the increase of atomic nos. The synergic extraction consts. increased in the order Gd > Br > Ho > Eu > Ce > La > Pr and the highest separation factor was observed in case of Er/Ho(2.09). pH 1/2 values were also obtained. In this synergic extraction system both the extraction equilibrium consts. and the separation factors were found to be greater than those of com. extractants.

L7 ANSWER 16 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:778408 CAPLUS

DOCUMENT NUMBER: 123:216900

TITLE: Synthesis, structure and properties of volatile **lanthanide** pivalates

AUTHOR(S): Zoan, Tu A.; Kuzmina, Nataliya P.; Frolovskaya, Svetlana N.; Rykov, Anatoli N.; Mitrofanova, Nina D.; Troyanov, Sergey I.; Pisarevsky, Alexander P.; Martynenko, Larissa I.; Korenev, Yury M.

CORPORATE SOURCE: Department of Chemistry, Moscow State University, Moscow, 19899, Russia

SOURCE: Journal of Alloys and Compounds (1995), 225(1-2), 396-9  
CODEN: JALCEU; ISSN: 0925-8388

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The detected volatility of **lanthanide** pivalates has drawn attention to the study of their synthesis, structure and properties. **Lanthanide** pivalates were obtained as adducts MPiv<sub>3</sub>·3HPiv and MPiv<sub>3</sub>·phen (M = La, Pr, Ce, Nd, Gd, Ho, Er, Yb; HPiv = pivalic acid; phen = **1,10-phenanthroline**) and hydrates MPiv<sub>3</sub>·mH<sub>2</sub>O (m = 3-7). When heated, the adducts MPiv<sub>3</sub>·3HPiv decomposed with the formation of MPiv<sub>3</sub> at temps. <200°. The x-ray crystal structure of dimeric [MPiv<sub>3</sub>·3HPiv] (M = Nd, Ce) was determined. The compds. MPiv<sub>3</sub>·3HPiv, MPiv<sub>3</sub>·phen and MPiv<sub>3</sub> were characterized by IR spectroscopy and thermal anal. Mass spectrometry data demonstrated the oligomeric structure of MPiv<sub>3</sub> in the vapor phase. The temperature dependence of the vapor d. was determined for MPiv<sub>3</sub> (M = Nd, Er) in the range 330-370° by the flow method. Kinetic

factors strongly affected **lanthanide** pivalate sublimation.

L7 ANSWER 17 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:425436 CAPLUS

DOCUMENT NUMBER: 121:25436

TITLE: Study on ternary coordination compounds of **lanthanides** with acetylsalicylic acid and o-phenanthroline

AUTHOR(S): Niu, Xuanjun; Qian, Bo; Gao, Gailing; Wang, Lida; Cheng, Shuying

CORPORATE SOURCE: Dep. Chem., Shanxi Norm. Univ., Xian, 710062, Peop. Rep. China

SOURCE: Wuji Huaxue Xuebao (1994), 10(1), 97-9

CODEN: WHUXEO; ISSN: 1001-4861

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB Solid Ln(asal)3.phen (Ln = La, Ce, Pr, Nd, Sm, Eu; Hasal = acetylsalicylic acid) were synthesized. The electronic absorption spectra of Nd<sup>3+</sup>, Ho<sup>3+</sup> and Er<sup>3+</sup> with asal and phen were studied in ethanolic-H<sub>2</sub>O solvent system. The fluorescence spectra, IR spectra, thermal stability and solubility of the coordination compds. were studied also.

L7 ANSWER 18 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:484582 CAPLUS

DOCUMENT NUMBER: 119:84582

TITLE: Metal chelates of some  $\beta$ -diketones as volatile precursors

AUTHOR(S): Snezhko, N.; Moroz, S.; Petchurova, N.

CORPORATE SOURCE: Dep. Chem., Moscow State Univ., Moscow, 119899, Russia

SOURCE: Materials Science & Engineering, B: Solid-State Materials for Advanced Technology (1993), B18(3), 230-1

CODEN: MSBTEK; ISSN: 0921-5107

DOCUMENT TYPE: Journal

LANGUAGE: English

AB **Complexes** of rare earth elements, Cu and Ba with some  $\beta$ -diketones (2,6,6-trimethyl-2-methoxyheptane-3,5-dione, primarily, and 2,6-dimethyl-2-methoxyheptane-3,5-dione) were prepared and characterized from their elemental, IR, thermal and magnetic moment data. The volatilities of **complexes** were studied.

L7 ANSWER 19 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1992:186973 CAPLUS

DOCUMENT NUMBER: 116:186973

TITLE: Color reaction of rare earth-Arsenazo III-copper-phenanthroline mixed multinuclear **complexes**

AUTHOR(S): Shen, Hanxi; Ling, Rong

CORPORATE SOURCE: Dep. Chem., Nankai Univ., Tianjin, 300071, Peop. Rep. China

SOURCE: Zhongguo Xitu Xuebao (1990), 8(4), 354-8

CODEN: ZXXUE5; ISSN: 1000-4343

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB Conditions for the formation of a 1:1:1:3 La-arsenazo III-Cu-o-phenanthroline **complex** in pH 4.58 AcOH.AcONa buffer solution and its mechanism were studied. The maximum absorption was at 663 nm and the corresponding molar absorptivity was  $1.22 \times 10^5$  L mol<sup>-1</sup> cm<sup>-1</sup>. The absorbance was stable for >3 h. For determination of La in synthesized samples,

the recovery of La was 100-104.6%. The molar absorptivities of M-arsenazo III-Cu-o-phenanthroline **complexes** (M = Ce, Pr, Nd, Sm, Eu, Gd,

Tb, Dy, Ho, Er, Tm, Yb, Lu, and Y) were also determined. The molar absorptivity decreased with an increase of the number of the rare earth.

L7 ANSWER 20 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:596802 CAPLUS

DOCUMENT NUMBER: 115:196802

TITLE: Mixed ligand **complexes** of **lanthanide** ions with acetone ferrocenecarbonylhydrazone and **1,10-phenanthroline**

AUTHOR(S): Han, Xiaojun; Wang, Xintang

CORPORATE SOURCE: Dep. Chem., Xinjiang Univ., Wulumuqi, 830046, Peop. Rep. China

SOURCE: Polyhedron (1991), 10(13), 1491-5

CODEN: PLYHDE; ISSN: 0277-5387

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Acetone ferrocenecarbonylhydrazone (HL), and Ln(HL)(phen)<sub>2</sub>Cl<sub>3</sub>·nH<sub>2</sub>O (Ln = **lanthanide** and Y; phen = **1,10-**

**phenanthroline**; n = 4,5) were prepared by the reaction by hydrated LnCl<sub>3</sub>, with HL and phen in EtO-solution. The IR, NMR, UV, molar conductance and TG data of the ligands and their **complexes** are discussed.

L7 ANSWER 21 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:412904 CAPLUS

DOCUMENT NUMBER: 113:12904

TITLE: Formation constants of some ternary **lanthanide complexes** with o-phenanthroline and aliphatic amino acids

AUTHOR(S): Limaye, S. N.; Saxena, M. C.

CORPORATE SOURCE: Dep. Chem., Dr. Hari Singh Gour Vishwavidyalaya, Sagar, 470 003, India

SOURCE: Journal of the Indian Chemical Society (1990), 67(2), 162-4

CODEN: JICSAH; ISSN: 0019-4522

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Formation consts. for ternary Ln(III) **complexes** of the type [Ln(III).phen.L] where Ln = La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy or Er; phen = o-phenanthroline; L = glycine, α-alanine, valine or leucine were determined. The tetrad effect was seen.

L7 ANSWER 22 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1988:15500 CAPLUS

DOCUMENT NUMBER: 108:15500

TITLE: Enhanced luminescence of the europium/terbium/thenoyltrifluoroacetone/**1,10-phenanthroline**/surfactant system, and its analytical application

AUTHOR(S): Yang, Jinghe; Zhu, Guiyun; Wu, Bo

CORPORATE SOURCE: Dep. Chem., Shandong Univ., Jinan, Peop. Rep. China

SOURCE: Analytica Chimica Acta (1987), 198, 287-92

CODEN: ACACAM; ISSN: 0003-2670

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The enhanced luminescence of Eu in a thenoyltrifluoroacetone/**1,10-phenanthroline**/Triton X-100 system in the presence of Tb was studied. The sensitivity was increased by 2 orders of magnitude, giving a detection limit of 10<sup>-13</sup>M. The optimized procedure was applied to the determination of Eu in **lanthanide** oxide samples.

L7 ANSWER 23 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1987:221129 CAPLUS

DOCUMENT NUMBER: 106:221129  
TITLE: Synergistic extraction of rare earth ions with PMBP and **1,10-phenanthroline**  
AUTHOR(S): Luo, Mingrun; Cheng, Li; Song, Lexin; Zhang, Dingrong  
CORPORATE SOURCE: Dep. Chem., Anhui Norm. Univ., Wuhu, Peop. Rep. China  
SOURCE: Wuji Huaxue (1986), 2(2), 39-48  
CODEN: WUHUE7

DOCUMENT TYPE: Journal  
LANGUAGE: Chinese

AB The synergic extraction was studied for 15 rare earth ions (including Y but not Pm) by PMBP (4-benzoyl-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-one) and phen(**1,10-phenanthroline**) from aqueous HClO<sub>4</sub> and NaOAc buffer at pH 4 and 25°. The slope anal. method showed the composition of the extracted **complexes** to be LnA<sub>3</sub>B. The synergic extraction consts. (log K) and the equilibrium consts. (log β<sub>3,1</sub>) for LnA<sub>3</sub>B show large synergic effects and increase with increasing atomic number. The mean separation factor calculated from log K between the adjacent rare earth ions in this series is 2.3 and the separation factor between La and Lu is 3.4 + 10<sup>4</sup>, which is approx. 10 fold greater than the value obtained by both Roy and Chen (1978) by extracting with PMBP alone. This system can be used for the separation of lighter and heavier rare earth ions. A plot of log K values vs. atomic number Z shows the tetrad grouping. The synergic extraction constant of Y

located its position between Gd and Tb. The results agree with those of Roy and Chen. But log K of Lu is greater than that of Yb. The **complexes** both in the organic phase and in the solid state were studied by IR spectroscopy. The spectrum of the CHCl<sub>3</sub> solution of PMBP and phen after extraction, compared with that before extraction, had changed significantly in the 1400-1650 region, where the C:O and C:N vibrational bands are located. There are some new bands which may be assigned to the coupling vibrations of C:O and C:N vibrations when these groups occur in chelate rings with the same rare earth ion. The pattern of IR spectra of HoA<sub>3</sub>B in the solid state and of the **complex** in the organic phase are very similar. Chelate bonding of the **complexes** both in the solid state and in the organic phase was confirmed.

L7 ANSWER 24 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1974:132347 CAPLUS  
DOCUMENT NUMBER: 80:132347  
TITLE: Applications of rare earth **complexes** as NMR shift reagents in elucidating the structure of organic molecules  
AUTHOR(S): Sinha, Shyama, P.  
CORPORATE SOURCE: Dep. Chem., Univ. Malaya, Kuala Lumpur, Malay.  
SOURCE: Journal of Molecular Structure (1973), 19(1), 387-401  
CODEN: JMOSB4; ISSN: 0022-2860  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Shift reagents are reviewed and some new data on **lanthanide-1,10-phenanthroline** and **lanthanide-2,2'-dipyridyl** systems are presented. The use of Pr(TTA)<sub>3</sub> (TTA = thenoyltrifluoroacetate) as an NMR shift reagent for benzylic systems is reviewed,, this **complex** possesses useful properties as a two-way shift reagent. Both high field and low field shifts for benzylic protons are observed

L7 ANSWER 25 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1972:412077 CAPLUS  
DOCUMENT NUMBER: 77:12077  
TITLE: NMR studies of **lanthanide (III) complexes**. High field shifts in **complexes** of **1,10-**

**phenanthroline**  
 AUTHOR(S): Sinha, Shyama P.; Green, R. D.  
 CORPORATE SOURCE: Dep. Chem., Univ. Malaya, Kuala Lumpur, Malay.  
 SOURCE: Spectroscopy Letters (1971), 4(12), 399-402  
 CODEN: SPLEBX; ISSN: 0038-7010  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB The PMR chemical shifts of all protons of **1,10-phenanthroline** shifted upfield on complexation with Ce<sup>3+</sup>, Pr<sup>3+</sup>, Nd<sup>3+</sup>, or Eu<sup>3+</sup> in D<sub>2</sub>O at 330°K (protonation results in low-field shifts). The induced shift of the phenanthroline C-2(9) proton signal was greatest in all the **lanthanide complexes** and was 4 ppm in the Pr<sup>3+</sup> **complex** (1:2 ion-ligand ratio). The observed shifts result from a combination of contact and pseudocontact interactions between the paramagnetic **lanthanide** ions and the ligand.

L7 ANSWER 26 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1969:491606 CAPLUS  
 DOCUMENT NUMBER: 71:91606  
 TITLE: Synthesis and properties of bipyridine and phenanthroline **complexes** of the **lanthanides**  
 AUTHOR(S): Golub, A. M.; Kopa, M. V.; Andreichenko, O. E.  
 CORPORATE SOURCE: Kiev. Gos. Univ. im. Shevchenko, Kiev, USSR  
 SOURCE: Zhurnal Obshchei Khimii (1969), 39(6), 1382-7  
 CODEN: ZOKHA4; ISSN: 0044-460X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian

AB The **lanthanide** chlorides prepared by evaporation of their oxide solution in HCl were treated with K selenocyanate solution and yielded on filtration and treatment of the filtrate with **1,10-phenanthroline** (I) or 2,2'-bipyridine (II) the following **complexes**: LaL<sub>3</sub>(SeCN)<sub>3</sub> (L = I); CeL<sub>3</sub>(SeCN)<sub>3</sub> (L = I); PrL<sub>3</sub>(SeCN)<sub>3</sub> (L = I); NdL<sub>3</sub>(SeCN)<sub>3</sub> (L = I); LaL<sub>3</sub>(SeCN)<sub>3</sub>.2MeOH (L = II); LaL<sub>3</sub>(SeCN)<sub>3</sub> (L = II); CeL<sub>3</sub>(SeCN)<sub>3</sub> (L = II); PrL<sub>3</sub>(SeCN)<sub>3</sub> (L = II); NdL<sub>3</sub>(SeCN)<sub>3</sub> (L = II); LaL<sub>2</sub>(SeCN)<sub>3</sub>(MeOH)<sub>2</sub> (L = II); CeL<sub>2</sub>(SeCN)<sub>3</sub>(MeOH)<sub>2</sub> (L = II); PrL<sub>2</sub>(SeCN)<sub>3</sub>(MeOH)<sub>2</sub> (L = II); NdL<sub>2</sub>(SeCN)<sub>3</sub>(MeOH)<sub>2</sub> (L = II). These were analyzed and their thermograms reported. **Complexes** with I decomposed at 300-20°; those with II decomposed at 280-306° and the last group decomposed at 125-50°. The bipyridine **complexes** were weak conductors in Me<sub>2</sub>CO or MeOH but were considerably dissociated in aqueous solution and their molar conductivity corresponded to 4-ion solution in water and 2-ion electrolytes in MeOH or acetone. Conductivity data were tabulated.

L7 ANSWER 27 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1967:428826 CAPLUS  
 DOCUMENT NUMBER: 67:28826  
 TITLE: **Complexes** of haloacetates of the **lanthanide** series with **1,10-phenanthroline** and  $\alpha, \alpha'$ -dipyridyl  
 AUTHOR(S): Spacu, Petru; Antonescu, Elena  
 CORPORATE SOURCE: Forschungsstelle Anorg. Chem. Akad. R.S.R., Bucharest, Rom.  
 SOURCE: Zeitschrift fuer Chemie (1967), 7(4), 163-4  
 CODEN: ZECEAL; ISSN: 0044-2402  
 DOCUMENT TYPE: Journal  
 LANGUAGE: German

AB The title **complexes** were obtained by treating **lanthanide**



haloacetates in EtOH with **1,10-phenanthroline** (phen) or  $\alpha,\alpha'$ -dipyridyl (dip) in EtOH. The following **complexes** were obtained:  $[M(\text{phen})(\text{CH}_2\text{ClCO}_2)_3]$  ( $M = \text{Ce, Pr, Sm, Eu, Dy, Er}$ )  $[M(\text{phen})(\text{CHCl}_2\text{CO}_2)_3]$  ( $M = \text{Ce, Pr, Dy}$ ),  $[M(\text{phen})(\text{CCl}_3\text{CO}_2)_3]$  ( $M = \text{Ce, Pr, Dy, Er}$ ),  $[M(\text{dip})(\text{CH}_2\text{ClCO}_2)_3]$  ( $M = \text{Sm, Eu, Er}$ ). The ir spectra of some Er **complexes** are given.

L7 ANSWER 28 OF 30 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1965:444026 CAPLUS

DOCUMENT NUMBER: 63:44026

ORIGINAL REFERENCE NO.: 63:7878e-f

TITLE: **Lanthanide complexes. III.**  
**Complexes** of 2,2'-dipyridyl e with **lanthanide** chlorides, thiocyanates, acetates, and nitrates

AUTHOR(S): Hart, F. A.; Laming, F. P.

CORPORATE SOURCE: Queen Mary Coll., London

SOURCE: Journal of Inorganic and Nuclear Chemistry (1965), 27(8), 1825-9

CODEN: JINCAO; ISSN: 0022-1902

DOCUMENT TYPE: Journal

LANGUAGE: English

AB cf. CA 63, 5221h. Crystalline **complexes** of the novel types  $\text{MCl}_2(\text{dipy})\text{H}_2\text{O}$ ,  $\text{M}(\text{CH}_3\text{COO})_3(\text{dipy})$ ,  $\text{MCl}_3(\text{dipy})_2$   $\text{MCl}_3(\text{dipy})_2\text{EtOH}$ , and  $\text{M-CNS}_3(\text{dipy})_3$  are described ( $M = \text{a lanthanide}$  and  $\text{dipy} = 2,2'$ -dipyridyl). Further data are presented concerning the **complexes**  $\text{M}(\text{NO}_3)_3(\text{dipy})_2$ . All the **complexes** are compared with the corresponding **1:10-phenanthroline** compds. with respect to possible structures and relative stability.

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ACCESSION NUMBER: 1965:429524 CAPLUS

DOCUMENT NUMBER: 63:29524

ORIGINAL REFERENCE NO.: 63:5221h,5222a

TITLE: **Lanthanide complexes. II.**  
**Complexes** of **1:10-phenanthroline** with **lanthanide** acetates and nitrates

AUTHOR(S): Hart, F. A.; Laming, F. P.

CORPORATE SOURCE: Queen Mary Coll., London

SOURCE: Journal of Inorganic and Nuclear Chemistry (1965), 27(7), 1605-10

CODEN: JINCAO; ISSN: 0022-1902

DOCUMENT TYPE: Journal

LANGUAGE: English

AB cf. CA 60, 14105g. Crystalline, thermally stable **complexes** of the types  $\text{M}(\text{OAc})_3(\text{phen})$  and  $\text{M}(\text{NO}_3)_3(\text{phen})_2$ , where  $M = \text{all the lanthanides}$  except Pm and  $\text{phen} = 1,10\text{-phenanthroline}$ , were isolated. Magnetic moments and ir spectra are reported and structures are discussed.

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ACCESSION NUMBER: 1964:80606 CAPLUS

DOCUMENT NUMBER: 60:80606

ORIGINAL REFERENCE NO.: 60:14105g

TITLE: **Complexes** of **1,10-phenanthroline** with **lanthanide** chlorides and thiocyanates

AUTHOR(S): Hart, F. A.; Laming, F. P.

CORPORATE SOURCE: Univ. London

SOURCE: Journal of Inorganic and Nuclear Chemistry (1964),

10/773,928

26(4), 579-85

CODEN: JINCAO; ISSN: 0022-1902

DOCUMENT TYPE:

Journal

LANGUAGE:

Unavailable

AB [M(C12H8N2)3](SCN)3, [M(C12H8N2)2Cl2] Cl or [M(C12H8N2)2(H2O)Cl]Cl2, and several other **complexes** were isolated and their structures described.

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